

MR Disc Brake Caliper Range

The Twiflex MR series of disc brake calipers is suitable for use with discs of 12.7mm (0.50 in) or 25.4mm (1 in) thick. Minimum disc diameter is 250mm (9.84 in). Minimum disc diameter for the MR2 is 460mm (18 in).

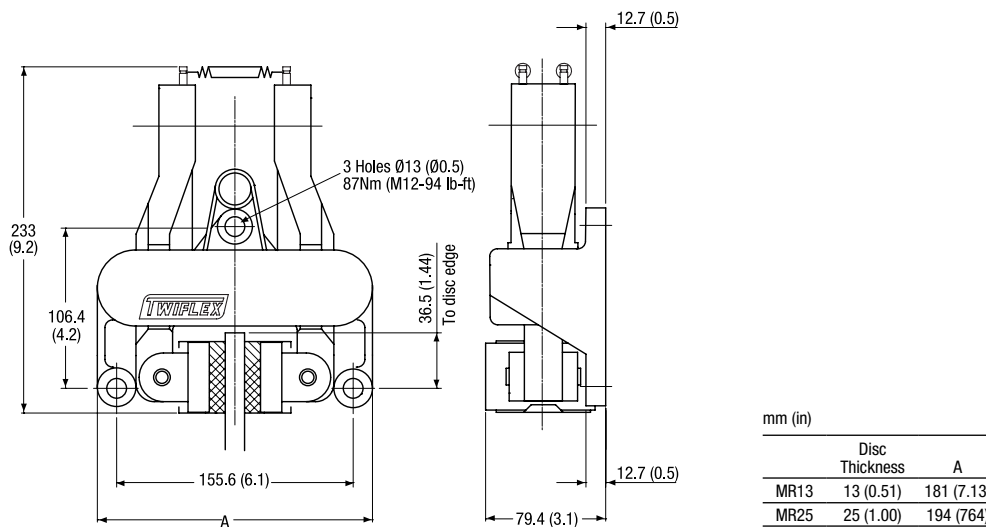
Normally one or two calipers are used per disc, but the number may be increased depending on disc size. The brakes may be positioned at any angle around the periphery of the disc, but should ideally be mounted horizontally (i.e. at the 3 o'clock or 9 o'clock position). If the caliper mounting angle is greater than 10° from the horizontal, or on vertical shaft applications, it should be fitted with an equalising link. A range of brake discs is available from Twiflex (see Disc and Hub Assemblies).

For pneumatic operation use dry, filtered and non-lubricated compressed air. Pneumatic brakes require a control valve, operated either manually or by pneumatic or electrical signal.

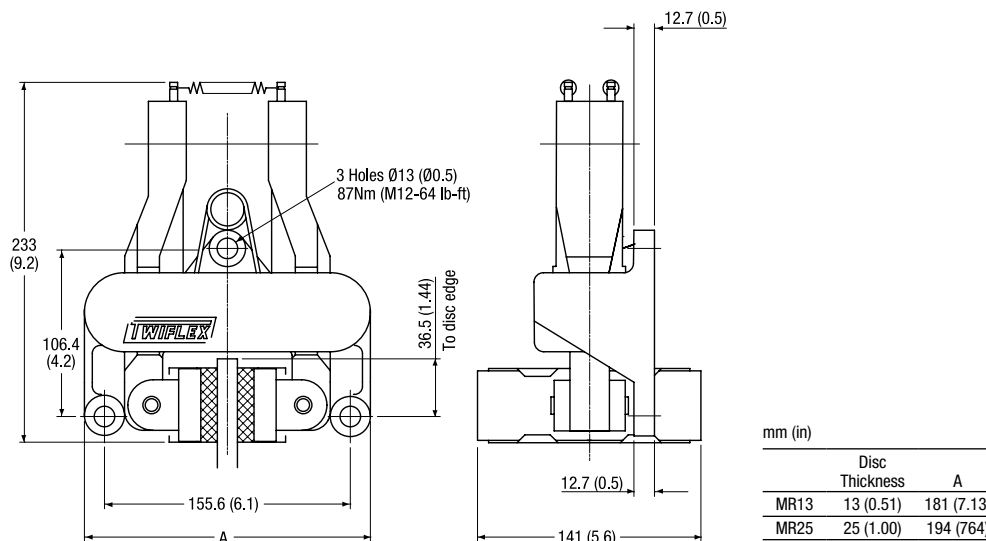
The ratings shown on the graphs are based on fully bedded in and conditioned brake pads with a nominal friction coefficient $\mu = 0.4$. Twiflex disc brakes must be used with Twiflex asbestos free brake pads.

Effective disc radius = actual radius (m) – 0.03m
(Effective disc radius = actual radius (ft) – 0.09 ft)

MR Disc Brake Caliper



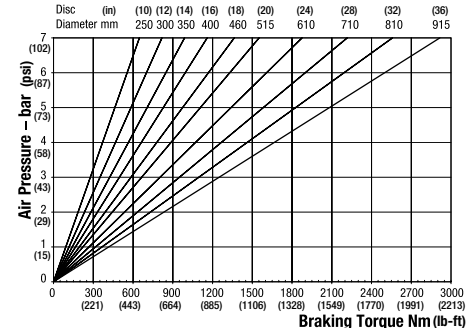
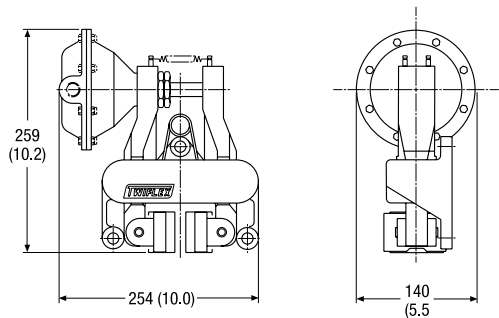
MR2 Disc Brake Caliper



Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MR Series

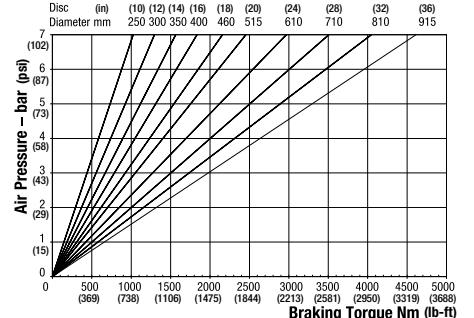
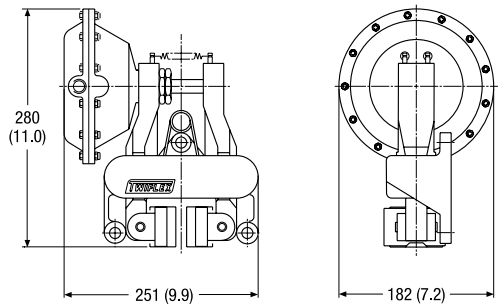
MRA Pneumatically Applied – Spring Released



Maximum Pressure 7 bar (102 psi)
 Maximum Braking Force = 6.9kN @ 7 bar (1551.18 lbf @ 102 psi)
 Weight of MR caliper and thruster - 7.82kg (17.24 lb)

Weight of MR2 caliper and thruster - 8.32kg (18.34 lb)
 Weight of thruster only - 1.32kg (2.91 lb)
 Volume displacement of thruster at full stroke = 300 (10.14 fl oz)

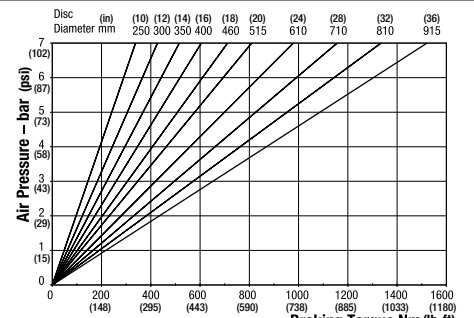
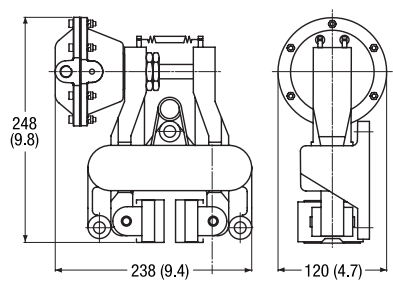
MRB Pneumatically Applied – Spring Released



Maximum Pressure 7 bar (102 psi)
 Maximum Braking Force = 10.8kN @ 7 bar (2427.97 lbf @ 102 psi)
 Weight of MR caliper and thruster - 8.56kg (18.87 lb)

Weight of MR2 caliper and thruster - 9.06kg (19.97 lb)
 Weight of thruster only - 2.06kg (4.54 lb)
 Volume displacement of thruster at full stroke = 426ml (14.40 fl oz)

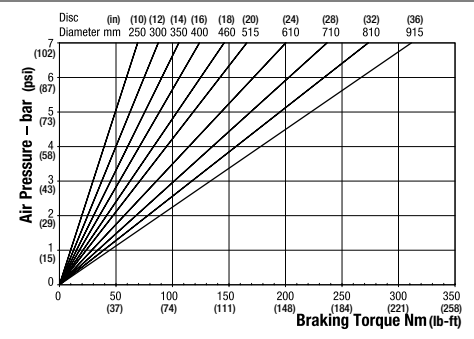
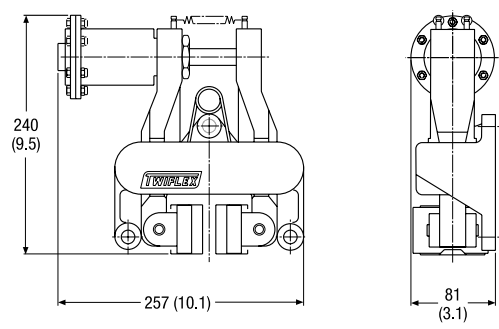
MRD Pneumatically Applied – Spring Released



Maximum Pressure 7 bar (102 psi)
 Maximum Braking Force = 3.5kN @ 7 bar (786.83 @ 102 psi)
 Weight of MR caliper and thruster - 7.65kg (16.87 lb)

Weight of MR2 caliper and thruster - 8.15kg (17.97 lb)
 Weight thruster only - 1.15kg (2.54 lb)
 Volume displacement of thruster at full stroke = 150ml (5.07 fl oz)

MRE Pneumatically Applied – Spring Released

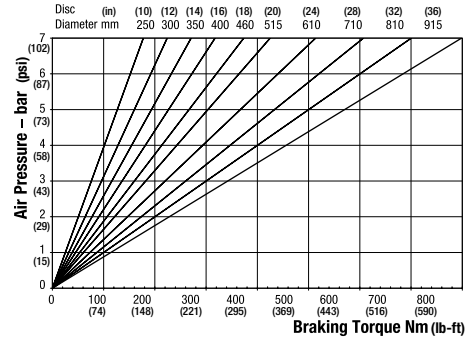
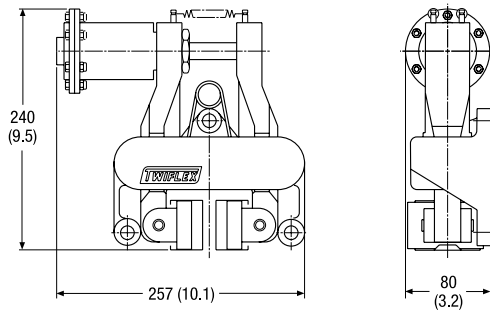


Maximum Pressure 7 bar (102 psi)
 Maximum Braking Force = 0.74kN @ 7 bar (166.36 lbf @ 102 psi)
 Weight of MR caliper and thruster - 6.84kg (15.08 lb)

Weight of MR2 caliper and thruster - 7.34kg (16.18 lb)
 Weight of thruster only - 0.34kg (0.75 lb)
 Volume displacement of thruster at full stroke = 25ml (0.86 fl oz)

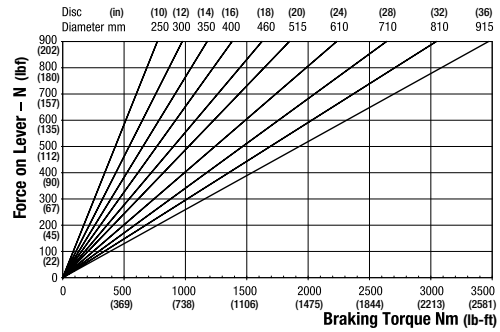
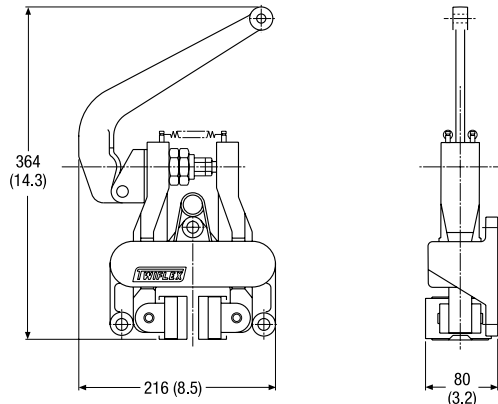
Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MRG Pneumatically Applied – Spring Released



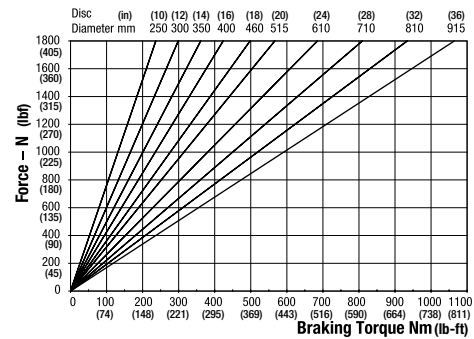
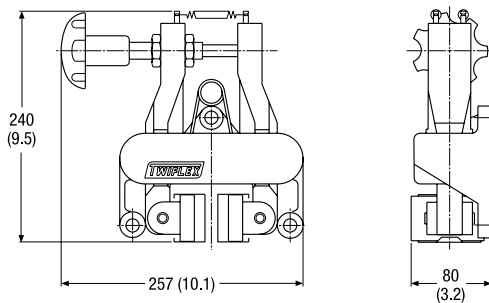
Maximum Pressure 7 bar (102 psi)
 Maximum Braking Force = 1.9kN @ 7 bar (427.14 lbf @ 102 psi)
 Weight of MR caliper and thruster - 6.8kg (14.99 lb)
 Weight of MR2 caliper and thruster - 7.3kg (16.09 lb)
 Weight of thruster only - 0.3kg (0.66 lb)
 Volume displacement of thruster at full stroke = 64ml (2.16 fl oz)

MRH Mechanically Applied – Lever Operated



Weight of MR caliper and thruster - 7.9kg (17.41 lb)
 Weight of MR2 caliper and thruster - 8.4kg (18.51 lb)
 Weight of lever assembly only - 1.4kg (3.08 lb)
 Maximum Braking Force = 8.3kN @ 0.9kN (1865.91 @ 202.33 lbf) force on lever

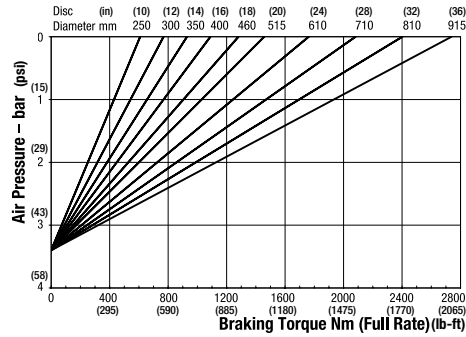
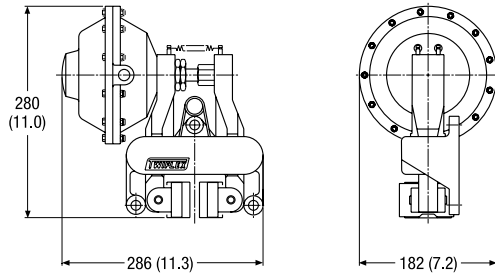
MRW Mechanically Applied – Hand Operated



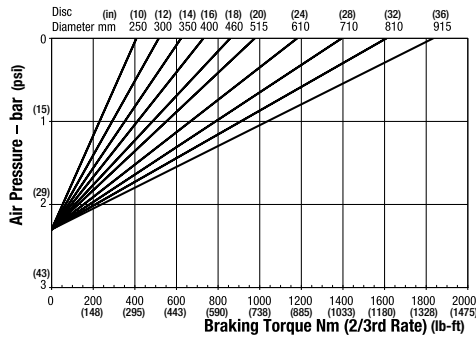
Weight of MR caliper and hand wheel assembly - 7.8kg (17.19 lb)
 Weight of MR2 caliper and hand wheel - 8.3kg (18.29 lb)
 Weight of hand wheel assembly only - 1.3kg (2.86 lb)
 Maximum Braking Force = 2.68kN (602.48 lbf)

MR Series

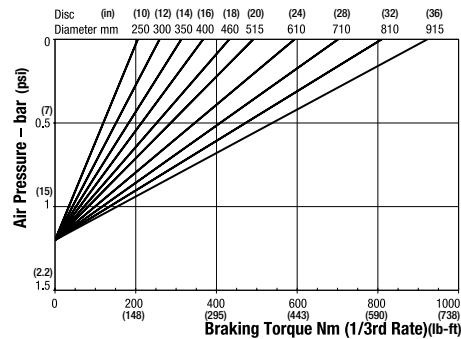
MRK Spring Applied – Pneumatically Released, Self Adjusting



Minimum Pressure for full retraction: 5 bar (73 psi) Weight of thruster only - 3.5kg (7.71 lb)
 Maximum Braking Force full rate: 6.4kN (1438.77 lbf) Volume displacement of thruster at full retraction is 950ml (32.12 fl oz)
 Weight of MR caliper and thruster - 10.0kg (22.04 lb)
 Weight of MR2 caliper and thruster - 10.5kg (23.14 lb)

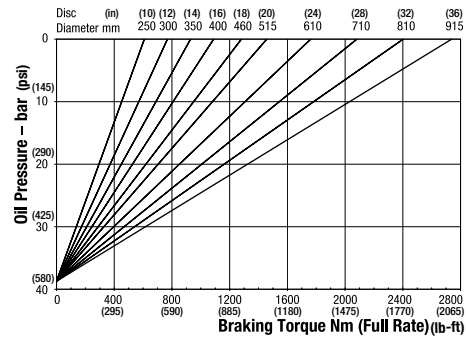
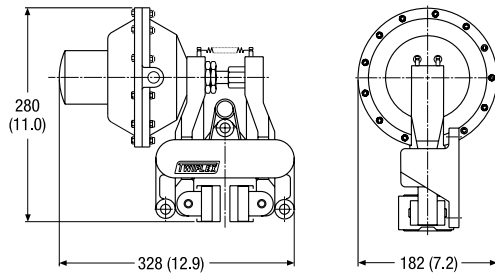


Minimum Pressure for full retraction: 3.3 bar (48 psi) Weight of thruster only - 3.5kg (7.71 lb)
 Maximum Braking Force 2/3rd rate: 4.3kN (966.67 lbf) Volume displacement of thruster at full retraction is 950ml (32.12 fl oz)
 Weight of MR caliper and thruster - 10.0kg (22.04 lb)
 Weight of MR2 caliper and thruster - 10.5kg (23.14 lb)

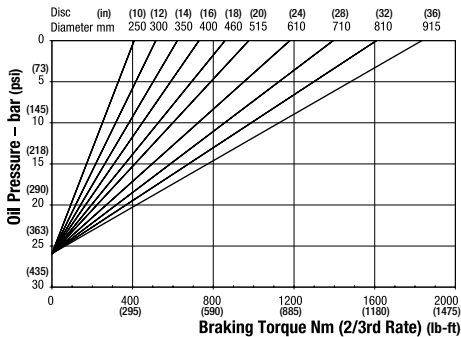


Minimum Pressure for full retraction: 1.7 bar (25 psi) Weight of thruster only - 3.5kg (7.71 lb)
 Maximum Braking Force 1/3rd rate: 2.2kN (494.57 lbf) Volume displacement of thruster at full retraction is 950ml (32.12 fl oz)
 Weight of MR caliper and thruster - 10.0kg (22.04 lb)
 Weight of MR2 caliper and thruster - 10.5kg (23.14 lb)

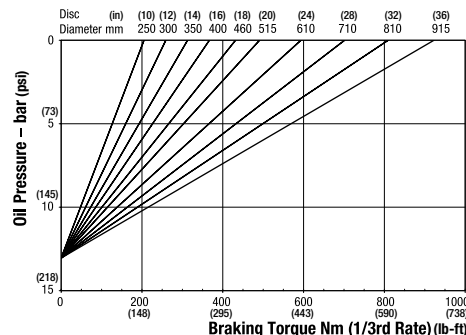
MRL Spring Applied – Hydraulically Released, Self Adjusting



Minimum Pressure for full retraction: 50 bar (725 psi) Weight of thruster only - 4kg (8.81 lb)
 Maximum Braking Force full rate: 6.4kN (1438.17 lbf) Volume displacement of thruster at 4mm (0.16 in) retraction = 5ml (0.16 fl oz)
 Weight of MR caliper and thruster - 10.5kg (23.14 lb)
 Weight of MR2 caliper and thruster - 11kg (24.25 lb)



Minimum Pressure for full retraction 33 bar (429 psi) Weight of thruster only - 4kg (8.81 lb)
 Maximum Braking Force 2/3rd rate: 4.3kN (966.67 lbf) Volume displacement of thruster at 4mm (0.16 in) retraction = 5ml (0.16 oz)
 Weight of MR caliper and thruster - 10.5kg (23.14 lb)
 Weight of MR2 caliper and thruster - 11kg (24.25 lb)



Minimum Pressure for full retraction: 17 bar (247 psi) Weight of thruster only - 4kg (8.81 lb)
 Maximum Braking Force 1/3rd rate: 2.2kN (494.57 lbf) Volume displacement of thruster at 4mm (0.16 in) retraction = 5ml (0.16 fl oz)
 Weight of MR caliper and thruster - 10.5kg (23.14 lb)
 Weight of MR2 caliper and thruster - 11kg (24.25 lb)

Retraction pressures where shown are calculated and may vary depending on spring tolerance.